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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,200	11/28/2001	Todor G. Georgiev	07844-495001	1276

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EXAMINER	
YANG, RYAN R	

ART UNIT	PAPER NUMBER
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/996,200	GEORGIEV, TODOR G.	
	Examiner	Art Unit	
	Ryan R. Yang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,6-15,21-30 and 38-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4,6-13 and 40-43* is/are allowed.

6)☒ Claim(s) *14-15,21-30,38,39 and 44-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Amendment filed on 5/24/2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

2. This action is responsive to communications: Amendment, filed on 5/24/2007. This action is non-final.

3. Claims 4, 6-15, 21-30 and 38-46 are pending in this application. Claims 6, 7, 14, 21, 22, 29 and 38 are independent claims. In the Amendment, filed on 5/24/2007, claims 1-3, 5, 16-20 and 31-37 were canceled, claims 4, 6-7, 10-14, 21-22, 25-30 and 38-39 were amended, and claims 40-46 were added.

4. The present title of the invention is "Tool for extracting and manipulating components of warping transforms" as filed originally.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 21, 22, 29 and 38 claim "computer readable medium" which lacks antecedent basis in the specification.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 21-30, 38-39 and 44-46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 21 claims a "computer program product" which is effectively a computer program, thus is non-

statutory. Independent claims 22, 29 and 38 and dependent claims 23-28, 30, 39 and 44-46 are rejected for the same reason.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 14, 15, 29-30 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al. (ACM Nov 1995) and further in view of Hoch et al. (US 6,791,574).

10. As per claim 14, Thomas, discloses a method comprising:

in response to user action on a canvas, selecting at least one area of a first image which relates to an area on a distortion grid (Figure 3 where a corner of the object is grabbed for scaling);

using a plurality of points local to the at least one area to calculate a distortion (Figure 3 where the area close to the selected corner is distorted);

extracting a rotation component of the distortion (Figure 8 where the rotation is a component of distortion and "The original Transformation object supported only affine transformation such as rotation, scaling, and translation" page 7, last paragraph);

applying the at least one component to a second area of the first image (Figure 3 where the other corners are also distorted).

Thomas discloses a method of distorting an image. It is noted that Thomas does not explicitly disclose "applying the at least one component to a second image". However, this is known in the art as taught by Hoch et al., hereinafter Hoch. Hoch

discloses an image modification method in which a distortion (which includes at least one component of the distortion) is applied to a second image (column 5, line 14-39). Such an arrangement allows animation and graphics, such as produced in Thomas, to be accurately added to real images without shifting of position (column 4, line 59-column 5, line 2).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

11. As per claim 15, Thomas and Hoch demonstrated all the elements as applied to the rejection of dependent claim 14, supra, and Hoch further discloses the second image (30) is different from the first image (36) (column 5, line 14-39).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

12. As per claim 29, Thomas discloses a computer program product, disposed in a computer readable medium, having instructions to cause a computer to:

using a plurality of points surrounding a first area of an image related to an area in a distortion grid, calculate at least one component of a distortion at the first area (Figure 3 where a corner of the object is grabbed for scaling and the area close to the selected corner is distorted; since the distortion is not limited to one point but to a plurality of points local to the area); and

apply the at least one component of the distortion to a second area of the image (Figure 3 where the other corners are also distorted).

Thomas discloses a method of distorting an image. It is noted that Thomas does not explicitly disclose "applying the at least one component to a second image". However, this is known in the art as taught by Hoch et al., hereinafter Hoch. Hoch discloses an image modification method in which a distortion (which includes at least one component of the distortion) is applied to a second image (column 5, line 14-39). Such an arrangement allows animation and graphics, such as produced in Thomas, to be accurately added to real images without shifting of position (column 4, line 59-column 5, line 2).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

13. As per claim 30, Thomas and Hoch demonstrated all the elements as applied to the rejection of dependent claim 29, supra, and Hoch further discloses the second image (30) is different from the first image (36) (column 5, line 14-39).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

14. As per claim 38, Thomas discloses a computer program product having instructions stored in a computer readable medium, containing instructions to cause a computer to:

display a first image on a canvas, the first image being related to an area on a distortion grid (Figure 1);

responsive to an input device controlled by a user, select an area of the first image (Figure 3 where a corner of the object is grabbed for scaling);

responsive to a selection by the user from a menu, extract at least one component of a distortion from the area (the scaling factor for Figure 3); and

responsive to movement and location of a cursor controlled by the user, apply the at least one component to a second area of the first image (Figure 3 where the other corners are also distorted).

Thomas discloses a method of distorting an image. It is noted that Thomas does not explicitly disclose "responsive to movement and location of a cursor controlled by the user, applying the at least one component to a second image". However, this is known in the art as taught by Hoch et al., hereinafter Hoch. Hoch discloses an image modification method in which a distortion (which includes at least one component of the distortion) is applied to a second image (column 5, line 14-39). Such an arrangement allows animation and graphics, such as produced in Thomas, to be accurately added to real images without shifting of position (column 4, line 59- column 5, line 2).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

15. As per claim 39, Thomas and Hoch demonstrated all the elements as applied to the rejection of dependent claim 38, supra, and Hoch further discloses the second image (30) is different from the first image (36) (column 5, line 14-39).

Thus, it would have been obvious to incorporate the teaching of Hoch into Thomas so as to make application of Thomas for accurately combining animation and graphics with real image.

Allowable Subject Matter

16. Claims 4, 6-13 and 40-43 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

As per claim 6, the closest prior art by Thomas et al. (ACM, Nov 1995) and Foley et al. ("Computer Graphics: Principles and Practice", 2nd Edition) do not explicitly disclose extraction of rotation comprising calculating an angle from the elements of a linear transform matrix.

As per claim 7, the closest prior art by Thomas et al. and Foley et al. do not explicitly disclose extraction of scaling comprising calculating a pair of eigenvalues of a linear transform, wherein each eigenvalue represents the amount of scaling in a direction represented by a corresponding projection matrix.

Response to Arguments

17. Applicant's arguments with respect to claims 14, 21, 22, 29 and 38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inquiries

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ryan Yang/
Primary Examiner
September 21, 2007

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